

Atty. Docket No. YOR920010072US1  
(590.044)

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

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1. **(Currently Amended)** A method of facilitating speech recognition, said method comprising the steps of:

obtaining speech input data;

building a model for each feature of an original set of linguistic features;

ranking the linguistic features; and

building a model for each of a preselected number N of the ranked linguistic features.

2. **(Original)** The method according to Claim 1, wherein said step of building a model for each of a preselected number N of the ranked features comprises building a model for the top N ranked features.

3. **(Original)** The method according to Claim 1, further comprising the step of compiling a confusion matrix for each feature of the original set of features subsequent to said step of building a model for each feature of an original set of features.

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4. **(Original)** The method according to Claim 3, wherein said step of compiling a confusion matrix comprises computing a score for each feature based on the likelihood of its presence in a frame of the speech input data.

5. **(Original)** The method according to Claim 4, wherein said step of computing a score for each feature comprises computing a score as a log-likelihood ratio.

6. **(Original)** The method according to Claim 4, wherein said step of compiling a confusion matrix further comprises comparing each score of each feature with a threshold.

7. **(Original)** The method according to Claim 4, wherein said step of compiling a confusion matrix further comprises calculating mutual information between truth and labels for each feature.

8. **(Original)** The method according to Claim 7, wherein said ranking step comprises ranking the mutual information calculated in compiling the confusion matrix.

9. **(Original)** The method according to Claim 1, wherein said step of building a model for each feature of an original set of features comprises:

partitioning the speech input data in parallel, once for each feature; and

producing an observation vector.

10. **(Original)** The method according to Claim 9, wherein said step of building a model for each feature of an original set of features comprises:

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partitioning data in parallel from the observation vector, once for each feature; and  
producing final observations.

11. **(Original)** The method according to Claim 1, wherein said step of building a model for each of a preselected number  $N$  of the ranked features comprises:

partitioning the speech input data in parallel, once for each feature; and  
producing an observation vector.

12. **(Original)** The method according to Claim 11, wherein said step of building a model for each of a preselected number  $N$  of the ranked features comprises:

partitioning data in parallel from the observation vector, once for each feature; and  
producing final observations.

13. **(Currently Amended)** An apparatus for facilitating speech recognition, said apparatus comprising:

an input medium which obtains speech input data;

a first model builder which builds a model for each feature of an original set of linguistic features;

a ranking arrangement which ranks the linguistic features; and

a second model builder which builds a model for each of a preselected number  $N$  of the ranked linguistic features.

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14. **(Original)** The apparatus according to Claim 13, wherein said second model builder is adapted to build a model for the top N ranked features.

15. **(Original)** The apparatus according to Claim 13, further comprising a matrix compiler which compiles a confusion matrix for each feature of the original set of features subsequent to the building of a model for each feature of an original set of features.

16. **(Original)** The apparatus according to Claim 15, wherein said matrix compiler is adapted to compute a score for each feature based on the likelihood of its presence in a frame of the speech input data.

17. **(Original)** The apparatus according to Claim 16, wherein said matrix compiler is adapted to compute a score for each feature as a log-likelihood ratio.

18. **(Original)** The apparatus according to Claim 16, wherein said matrix compiler is further adapted to compare each score of each feature with a threshold.

19. **(Original)** The apparatus according to Claim 16, wherein said matrix compiler is further adapted to calculate mutual information between truth and labels for each feature.

20. **(Original)** The apparatus according to Claim 19, wherein said ranking arrangement is adapted to rank the mutual information calculated in compiling the confusion matrix.

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21. **(Original)** The apparatus according to Claim 13, wherein said first model builder is adapted to:

partition the speech input data in parallel, once for each feature; and  
produce an observation vector.

22. **(Original)** The apparatus according to Claim 21, wherein said first model builder is further adapted to:

partition data in parallel from the observation vector, once for each feature; and  
produce final observations.

23. **(Original)** The apparatus according to Claim 13, wherein said second model builder is adapted to:

partition the speech input data in parallel, once for each feature; and  
produce an observation vector.

24. **(Original)** The apparatus according to Claim 23, wherein said second model builder is further adapted to:

partition data in parallel from the observation vector, once for each feature; and  
produce final observations.

25. **(Currently Amended)** A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform

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method steps for speech recognition, said method comprising the steps of:

obtaining speech input data;

building a model for each feature of an original set of linguistic features;

ranking the linguistic features; and

building a model for each of a preselected number N of the ranked linguistic features.

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